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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,162	04/20/2001	Jeffrey Richard Conrad	10006663-019	9023

7590 08/16/2004

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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LIN, WEN TAI

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/838,162	<b>Applicant(s)</b> CONRAD ET AL.	
	<b>Examiner</b> Wen-Tai Lin	<b>Art Unit</b> 2154	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. Claims 1-20 are presented for examination.
2. Claims 8, 10 and 20 are objected to because the following terms lack antecedent basis:  
  
In claims 8 and 20, "the first cdp node information"; and  
  
In claims 10 and 20, "the discovery process".

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ahearn et al. (hereafter "Ahearn") [U.S. Pat. No. 5926463].

5. As to claims 1-2 and 8, Ahearn teaches the invention substantially as claimed including: a method of discovering nodes in a network in real time [Abstract; Figs. 9 and 12] comprising:

transmitting a signal from a network manager to a first node of the network by querying a user to provide the first node information, wherein the signal requests information regarding additional nodes known to the first node;

receiving a response that identifies the additional nodes known to the first node;

repeating the transmitting and receiving steps for each additional node identified;

and

storing a list containing addresses of all identified nodes.

[See, e.g., col.1, line 59 – col.2, line 3; col.15, lines 23 – 64; and Fig.2C]

Ahearn does not specifically teach that the method applies to Cisco Discovery Protocol (CDP) nodes.

However, Ahearn teaches that the method uses SNMP queries to discover a multi-cast tree [Ahearn: col.15, lines 40-54].

It is obvious that Ahearn's method is also applicable to CDP nodes because the latter also support SNMP (i.e., able to send and receive SNMP messages) [see Applicant's specification regarding the definition of CDP].

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6. As to claims 3-7, Ahearn does not specifically teach imposing limits on a depth and/or breadth search for additional nodes by establishing a maximum hop limit or a recursion depth limit.

However, Ahearn teaches including a maximum hop count field in a trace query to limit the number of hops traced before a response is returned [col.14, lines 32-37] and that a user is free to create a hierarchy of limitless depth (i.e., of any specified depth) to suit his/her needs, if such a representation is desirable [col.23, lines 9-26]. In light of this teaching, it is obvious that Ahearn's method could also impose limitations on the size of the multicast tree (i.e., in depth and breadth), because this is a practical approach in dealing with a large network, wherein unrelated, distant nodes can be excluded from the discovery process.

7. As to claim 9, Ahearn does not specifically teach that the method further comprises searching a database of nodes previously discovered by the network manager to identify the first node. However, Ahearn teaches using baseline management to detect changes to the configuration of a backbone by comparing the status of the current configuration data with the previously saved baseline information.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to make use of the previously identified first node as the originating node for exploring the difference between the two previous and current configurations because it is easier to compare two hierarchical structures (such as trees) with a same root node.

8. As to claim 10, Ahearn teaches that the method further comprising: performing the discovery process based upon a user's request or at fixed time intervals [see, e.g., Figs. 2A and 2B wherein a timeout parameter is set to limit the response time].

9. As to claims 11-12, Ahearn teaches that the method further comprising: displaying the identified nodes in a Graphical User Interface; and modifying the list in real time to facilitate real time display of identified nodes as each node is identified, wherein the real time display is presented as a graphical topology of the network on a Graphical User Interface [col.21, line 64 – col.22, line 11; Figs. 1, 3-4, 8 and 12-13].

10. As to claim 13, Ahearn does not specifically teach that the network manager is Network Node Manager, which is a network management tool from Hewlett-Packard.

However, it is well known in the art that a variety of network management tools are available for initiating the discovery of network configuration, monitoring, and graphically displaying the collected information. It would have been obvious to one of ordinary skill in the art at the time the invention was made that the Network Node Manager may optionally be adopted as a network manager in Ahearn's system because it is a proven network management tool and employing an existing tool could save one from developing a new network manager.

11. As to claim 14, Ahearn further teaches that the list further comprises at least one of information on the interrelation of the identified nodes, device identification information, and device type information [col.8, line 51 – col.9, line 24; note further that the device related information is stored in a MIB, which is accessible via SNMP].

12. As to claims 15-20, since the features of these claims can also be found in claims 1-14, they are rejected for the same reasons set forth in the rejection of claims 1-14 above.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Vincent [U.S. PGPub 20020165815]; and  
Beaven [U.S. Pat. No. 5627766].

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (703)305-4875. The examiner can normally be reached on Monday-Friday (8:00-5:00) .

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:



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(703)872-9306 for official communications; and

(703)746-5516 for status inquires draft communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Wen-Tai Lin

August 12, 2004

Wen-Tai Lin  
8/12/04